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DEPARTMENT OF DEFENSE

Office of the Secretary

Announcement of Competition under the America COMPETES Act

AGENCY: Defense Advanced Research Projects Agency (DARPA), DoD.

ACTION: Notice.

SUMMARY: DARPA announces the Cyber Grand Challenge (CGC), a prize competition under 15 U.S.C. 3719, the America COMPETES Act. The CGC will utilize a series of competition events to test the abilities of fully automated cyber defense systems. The CGC seeks to engender a new generation of autonomous cyber defense capabilities that combine the speed and scale of automation with reasoning abilities exceeding those of human experts.

FOR FURTHER INFORMATION CONTACT: All questions regarding the competition may be sent to CyberGrandChallenge@darpa.mil.

SUPPLEMENTARY INFORMATION: DARPA recommends that all parties interested in participating in the CGC read the latest CGC Rules document posted on the CGC website (www.darpa.mil/cybergrandchallenge) for a full description of CGC events.

Subject of the competition. The DoD maintains information systems using a software technology base comprised of Commercial Off The Shelf (COTS) operating systems and applications. This COTS technology base is common to the DoD, industry, and the Defense Industrial Base, and the continual discovery of potential vulnerabilities in this software base has led to a constant cycle of intrusion, compromise discovery, patch

formulation, patch deployment and recovery. At the present time this defensive cycle is performed by highly trained software analysts; it is the role of these analysts to reason about the function of software, identify novel threats and remove them. Manual analysis of code and threats is an artisan process, often requiring skilled analysts to spend weeks or months analyzing a problem. The size of the technology base also contributes to the difficulty of manually discovering vulnerabilities. At the present time, automated program analysis capabilities are able to assist the work of human software analysts. In the Cyber Grand Challenge, competitors will improve and combine these semi-automated technologies into unmanned Cyber Reasoning Systems that can autonomously reason about novel program flaws, prove the existence of flaws in networked applications, and formulate effective defenses. The performance of these automated systems will be evaluated through head-to-head tournament style competition. The CGC will draw widespread attention to the technology issues associated with autonomous software comprehension and motivate entrants to overcome technical challenges to realize truly effective autonomous cyber defense. This competition will challenge the most capable and innovative companies, institutions, and entrepreneurs to produce breakthroughs in capability and performance. Eligible parties may enter the CGC on the Proposal Track through receiving an award under DARPA's CGC Automated Cyber Reasoning Broad Agency Announcement, or through open entry on the Open Track.

Eligibility for Competition Participation. To be eligible to participate in the CGC, an individual or entity shall have--

- (1) registered to participate in the competition in accordance with the CGC Rules document published at www.darpa.mil/cybergrandchallenge; and,
- (2) complied with all the requirements outlined in the CGC Rules document published at www.darpa.mil/cybergrandchallenge.

Competition Registration. There is no fee for entry. Application materials are available on the Cyber Grand Challenge website (www.darpa.mil/cybergrandchallenge) and must be submitted in accordance with the instructions outlined in the CGC Rules. The application procedure is a two-step process consisting of an initial application and an extended application. Application materials received after the deadlines specified on the CGC website will be disposed of in a secure manner. Application materials will not be returned. Incomplete applications will not be accepted.

Winner Selection. Scoring at Cyber Grand Challenge events will reflect successful cyber reasoning. Based on finalized scoring at the CGC Qualifying Event (CQE), DARPA will issue invitations to finalists. Open Track teams invited to the CGC Final Event (CFE) will receive a cash prize. Based on finalized scoring at the CFE, DARPA will determine 1st, 2nd, and 3rd place winners to receive prizes.

Prize Amounts. DARPA anticipates prizes in the following amounts:

- CQE: \$750,000
- CFE: 1st place: \$2,000,000; 2nd place: \$1,000,000; 3rd place: \$750,000

Dated: December 23, 2013.

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